

WHAT IS CLAIMED IS:

1. A calculating device provided for a shaking test apparatus for carrying out a shaking test on a structure by using a partial structure and a numerical model which is virtually connected to the partial structure, comprising a calculation part, wherein said calculation part identifies a vibration model corresponding to the partial structure on the basis of displacement and reaction force detected in response to shaking, combines the vibration model and the numerical model with each other to construct a model of the overall system corresponding to the structure, and calculates the shaking response of the overall system model.

2. A constructing apparatus of an overall system model comprising:

a vibration model which is a numerically model of a partial structure; and

a numerical model which is virtually connected to the partial structure and which is a model of a remainder of the structure;

wherein said vibration model corresponds to the partial structure and is identified with displacement and reaction force of the partial structure when the partial structure has undergone a shaking test, and the overall system model is constructed by the vibration model and the numerical model.

3. A constructing method of an overall system model

having a vibration model which is a numerically modeling of a partial structure and a numerical model which is virtually connected to the partial structure and is a modeling of the remainder of the structure comprising:

5       generating the vibration model corresponds to the partial structure on the basis of displacement and reaction force of the partial structure when the partial structure has undergone a shaking test;

10       generating the overall system model by arranging the vibration model and the numerical model; and

      identifying the overall system model by renewing the overall system model after calculating the shaking response of the overall system model.